

Numerical modeling of large elastoplastic strains in terms of principal stretches. II. Physical relations, calculation algorithm

Golovanov A.

Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

The constitutive relations and plastic flow rule are derived from the thermodynamics equations. The known procedures of determining the plastic strain rate value are described. A calculation algorithm is presented that is based on the incremental loading, linearization of the virtual power equation and the projection method. A numerical example is presented. © 2010 Allerton Press, Inc.

<http://dx.doi.org/10.3103/S1068799810030013>

Keywords

Constitutive relations, Plastic flow rule, The projection method